



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Tetsuo NAGANO et al.

Group Art Unit : 1755

Appln. No : 10/519,682

(National Stage of PCT/JP2003/008585)

Examiner : Not Yet Assigned

I.A. Filed : July 7, 2003

For : FLUORESCENT PROBE

## SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
U.S. Patent and Trademark Office  
Customer Service Window, Mail Stop Amendment  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Sir:

Further to the Information Disclosure Statement filed August 15, 2005, and in accordance with the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97, and 1.98, Applicants hereby bring the following information to the attention of the Examiner, which includes information cited in a Supplementary European Search Report issued in connection with counterpart European Application No. EP 03 74 1232, mailed June 30, 2005. A copy of the Supplementary European Search Report is being submitted herewith. The Examiner is invited to review the Supplementary European Search Report to inspect the relevance indicated during European examination with respect to the documents cited therein.

- (1) EP 0 314 480 A, and family member U.S. Patent No. 5,049,673;
- (2) Rajendra Nath SEN et al., "The Condensation of Primary Alcohols with Resorcinol and Other Hydroxy Aromatic Compounds", J. Am. Chem. Soc., vol. 47, pp. 1079-1091 (1925), XP002332482;

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Application No. 10/519,682

- (3) WO 01/62755, and family members U.S. Patent Application Publication Nos. 2003/162298 A1 and 2005/064308 A1;
- (4) EP 1 260 510 A, and family members U.S. Patent Application Publication Nos. 2003/162298 A1 and 2005/064308 A1;
- (5) U.S. Patent No. 5,874,590;
- (6) JP 10-226688 A, and family member U.S. Patent No. 5,874,590; and
- (7) EP 1 069 121 A, and family member U.S. Patent No. 5,525,088 B1.

Applicants also bring to the attention of the Examiner the below documents which are cited in the specification of the above-identified application:

- (8) U.S. Patent No. 6,903,226;
- (9) U.S. Patent No. 6,403,625;
- (10) R. KURDUKER et al., "Search for Physiologically Active Compounds", Proc. Indian. Acad. Sci. Sect. A., Vol. 57, pp. 280-287 (1963), which is cited on page 18 of the specification;
- (11) A. MINTA et al., "Fluorescent Indicators for Cytosolic Calcium Based on Rhodamine and Fluorescein Chromophores", J. Biol. Chem., Vol. 264, No. 14, pp. 8171-8178 (1989), which is cited on page 18 of the specification; and
- (12) P.K. Grover et al., "Xanthenes. Part IV. A New Synthesis of Hydroxyxanthenes and Hydroxybenzophenones," J. Chem. Sci. (London), pp. 3982-3985 (1955).

Applicants also bring to the attention of the Examiner the following additional documents:

- (13) U.S. Pat. App. Publication No. 2003/0157727;

- (14) U.S. Pat. App. Publication No. 2003/0153027;
- (15) U.S. Pat. App. Publication No. 2005/0037332;
- (16) U.S. Pat. App. Publication No. 2005/0182253;
- (17) U.S. Pat. App. Publication No. 2006/0030054;
- (18) U.S. Application No. 10/531,664, which is a National Stage Application of PCT/JP2003/013179, and which published as WO 2004/040296;
- (19) U.S. Application No. 10/570,355, which is a National Stage Application of PCT/JP2004/013185, and which published as WO 2005/024049;
- (20) U.S. Pat. App. No. 11/433,691, which is a continuation of 10/994,380 which published as U.S. Pat. App. Publication No. 2005/0064308, which is a divisional of 10/203,628, and now U.S. Pat. No. 6,903,226;
- (21) U.S. Pat. App. No. 11/382,424, which is a continuation of U.S. Application No. 10/204,417 which published as U.S. Pat. App. Publication No. 2003/0153027, and which U.S. Application No. 10/204,417 is a National Stage Application of PCT/JP2001/01504, and which published as WO 01/63265;
- (22) U.S. Pat. No. 6,756,231;
- (23) U.S. Pat. No. 6,469,051;
- (24) U.S. Pat. No. 6,441,197;
- (25) U.S. Pat. App. Publication No. 2005/0123478;
- (26) U.S. Pat. App. Publication No. 2005/0130314;
- (27) U.S. Pat. App. Publication No. 2004/0147035;
- (28) U.S. Pat. App. Publication No. 2004/0043498;
- (29) U.S. Patent No. 6,013,802;

- (30) U.S. Patent No. 6,833,386;
- (31) U.S. Patent No. 6,569,892;
- (32) U.S. Patent No. 5,874,590;
- (33) U.S. Patent No. 5,648,270;
- (34) U.S. Patent No. 6,441,197;
- (35) U.S. Patent No. 6,469,051;
- (36) U.S. Patent No. 6,525,088;
- (37) U.S. Patent No. 6,569,892;
- (38) U.S. Patent No. 6,201,134;
- (39) U.S. Patent No. 5,206,148;
- (40) Reyes, J.G., et al., Biol. Res., 27, pp. 49-56, 1994;
- (41) Tsuda, M., et al., Neurosci., 17, pp. 6678-6684, 1997;
- (42) Koike, T., et al., J. Am. Chem. Soc., 118, pp. 12696-12703, 1996;
- (43) Saibou Kougaku (Cell Technology), 17, pp. 584-595, 1998;
- (44) Tanpakushitsu.Kakusan.Kouso (Protein, Nucleic Acid and Enzyme), extra number, 42, pp. 171-176, 1997;
- (45) Tetsuji Kametani, Nankodo Co., Ltd., pp. 214-215, 1997;
- (46) Handbook of Fluorescent Probes and Research Chemicals, 6th Edition by Richard P. Haugland, pp. 503 and 531-540;
- (47) Protective Groups in Organic Synthesis, T. W. Greene, John Wiley & Sons, Inc. pp. v-xxi and 369-405;
- (48) JP 2000-239272 A (T. NAGANO et al.), 5 September 2000, accompanied by an English language abstract thereof (provided by Patent Abstracts of Japan);

- (49) Angew. Chem., Int. Ed. (1999), 38(21), pp. 3209-3212;
- (50) Anal. Chem. (1998), 70(13), pp. 2446-2453;
- (51) Bioorganic & Medicinal Chemistry, Vol.4, No.6, pp. 901-916, (1996);
- (52) Bioorg. Khim. (1995), 21(10), pp. 795-801;
- (53) Sci. China, Ser. B: Chem. (1998), 41(5), pp. 549-555;
- (54) J. Am. Chem. Soc. (1996), 118, pp. 6514-6515;
- (55) Hirano T. et al., "Highly Zinc-Selective Fluorescent Sensor Molecules Suitable for Biological Applications", J. Am. Chem. Soc., Vol. 122, No. 49, 13 December 2000, pp. 12399-12400;
- (56) Walkup G. K. et al., "A New Cell-Permeable Fluorescent Probe for  $Zn^{2+}$ ", J. Am. Chem. Soc., Vol. 122, No. 23, 14 June 2000, pp. 5644-5645;
- (57) WO 00/00819;
- (58) WO 89/09408;
- (59) WO 96/42016;
- (60) WO 98/15830;
- (61) WO 99/15896;
- (62) BAMBOT, S.B. et al., "Potential Applications of Lifetime-Based, Phase-Modulation Fluorimetry in Bioprocess and Clinical Monitoring", Trends in Biotechnology, Vol. 13, No. 3, March 1995, pages 106-115, XP 004207135;
- (63) SIPIOR, J. et al., "Lifetime-Based Optical Sensing of pH Using Resonance Energy Transfer in Sol-Gel Films", Sensors and Actuators B; Vol. 22, No. 3, December 1994, pages 181-188, XP004011062;

- (64) SELVIN, P.R. et al., "Luminescence Energy Transfer Using a Terbium Chelate: Improvements on Fluorescence Energy Transfer", Proceedings of the National Academy of Science of USA, National Academy of Science, Washington, DC, US, Vol. 91, October 1994, Pages 10024-10028;
- (65) U.S. Patent No. 5,656,433, and family members U.S. Patent Nos. 5,622,821, and 5,639,615;
- (66) Yuan, J. et al. "Functionalization of Fluorescent Lanthanide Complexes and Their Applications to Biotechnology", Bunseki Kagaku - Japan Analyst; Vol. 48, No. 12, pages 1077-1083 (1999), XP002932633;
- (67) JP 9-101262 A (GOLIGHT INC), 15 April 1997, accompanied by an English language abstract thereof;
- (68) U.S. Patent No. 4,891,075;
- (69) U.S. Patent No. 4,968,631;
- (70) U.S. Patent No. 5,340,716;
- (71) U.S. Patent No. 5,800,996;
- (72) U.S. Patent No. 5,863,727;
- (73) JP 5-180773 A, accompanied by an English language abstract thereof;
- (74) JP 10-68124 A, accompanied by an English language abstract thereof;
- (75) JP 2000-111480 A, accompanied by an English language abstract thereof;
- (76) Rogers, M. V., Drug Discovery Today, Vol. 2, pp. 156-160, 1997;
- (77) Selvin, P. R., et al., J. Am. Chem. Soc., Vol. 117, pp. 8132-8138, 1995;
- (78) Stryer, L., Ann. Rev. Biochem., Vol. 47, pp. 819-846, 1978;

- (79) Hemmilä, I., et al., Drug Discovery Today, Vol. 2, pp. 373-381, 1997;
- (80) New Apoptosis Experimental Protocol, 2nd ed., Yodosha, pp. 201-204, 1999;
- (81) Selvin, P. R., et al., J. Am. Chem. Soc., Vol. 116, pp. 6029-6030, 1994;
- (82) J. BURCH, "The Inhibition of Horse-Liver Esterase by Rhodamine B," Biochemical Journal, Vol. 59, pp. 97-110 (1955);
- (83) D.D. THOMAS et al., "Flourescence energy transfer in the rapid-diffusion limit," Proceedings of the National Academy of Sciences of the United States of America, Vol. 75, No. 12, pp. 5746-5750 (1978);
- (84) S.M. YEH et al., "Characterization of Transferin Metal-Binding Sites by Diffusion-Enhanced Energy Transfer," Biochemistry, 19, pp. 5057-5062 (1980);
- (85) R.A. EDWARDS et al., "Spectroscopic Studies of Cibacron Blue and Congo Red Bound to Dehydrogenases and Kinases. Evaluation of Dyes as Probes of the Dinucleotide Fold," Biochemistry, Vol. 18, No. 23, pp. 5197-5204 (1979);
- (86) C.F. MEARES et al., "Diffusion-Enhanced Energy Transfer Shows Accessibility of Ribonucleic Acid Polymerase Inhibitor Binding Sites," Biochemistry, 20, pp. 610-617 (1981);
- (87) T.G. WENSEL et al., "Electrostatic Properties of Myoglobin Probed by Diffusion-Enhanced Energy Transfer," Biochemistry, 22, pp. 6247-6254 (1983);

- (88) M.M. FEDERICI et al., "Interaction of Cibacron Blue F<sub>3</sub>GA with Glutamine Synthetase: Use of the Dye as a Conformational Probe. 1. Studies Using Unfractionated Dye Samples," *Biochemistry*, 24, pp. 647-660 (1985);
- (89) T.G. WENSEL et al., "Diffusion-Enhanced Lanthanide Energy Transfer Study of DNA-Bound Cobalt(III) Bleomycins: Comparisons of Accessibility and Electrostatic Potential with DNA Complexes of Ethidium and Acridine Orange," *Biochemistry*, 24, pp. 3060-3069 (1985);
- (90) B.S. ISAACS et al., "A Domain of Membrane-Bound Coagulation Factor Va Is Located Far from the Phospholipid Surface. A Fluorescence Energy Transfer Measurement," *Biochemistry*, 25, pp. 4958-5969 (1986);
- (91) T.G. WENSEL et al., "Study of Biological Macromolecules by Diffusion-Enhanced Lanthanide Energy Transfer," *Journal of the Less-Common Metals*, 149, pp. 143-160 (1989);
- (92) P.R. SELVIN et al., "Luminescence Resonance Energy Transfer," *Journal of the American Chemical Society*, 116, pp. 6029-6030 (1994);
- (93) T. YAMAMOTO et al., "Determination of Electrostatic Potential Around Specific Locations on the Surface of Actin by Diffusion-enhanced Fluorescence Resonance Energy Transfer," *Journal of Molecular Biology*, 241, pp. 714-731 (1994);
- (94) S.C.J. MESKERS et al., "Analysis of Delayed Luminescence from Some Quenchers of Tb(DPA)<sub>3</sub><sup>3-</sup> Emission: Proof for an Energy Transfer Quenching Mechanism," *Journal of Alloys and Compounds*, 250, pp. 332-335 (1997);



- (95) D.D. ROOT, "*In situ* Molecular Association of Dystrophin with Actin Revealed by Sensitized Emission Immuno-Resonance Energy Transfer," Proceedings of the National Academy of Sciences of the United States of America, 94, pp. 5685-5690 (1997);
- (96) C. MUCIGNAT-CARETTA et al., "Building of Two Fluorescent cAMP Analogues to Type I and II Regulatory Subunits of cAMP-Dependent Protein Kinases," Biochimica et Biophysica Acta, 1357, pp. 81-90 (1997);
- (97) Y.-W. PARK et al., "Homogeneous Proximity Tyrosine Kinase Assays: Scintillation Proximity Assay versus Homogeneous Time-resolved Fluorescence," Analytical Biochemistry, 269, pp. 94-104 (1999);
- (98) K. BLOMBERG et al., "Terbium and Rhodamine as Labels in a Homogeneous Time-resolved Fluorometric Energy Transfer Assay of the  $\beta$  Subunit of Human Chorionic Gonadotropin in Serum," Clinical Chemistry, 45, 855-861 (1999);
- (99) L.L. PEARCE et al., "Role of Metallothionein in Nitric Oxide Signaling as Revealed by a Green Fluorescent Fusion Protein," Proceedings of the National Academy of Sciences of the United States of America, 97, pp. 477-482 (2000);
- (100) M. KORESAWA et al., "Development of a Time-Resolved Fluorometric Detection System Using Diffusion-Enhanced Energy Transfer," Analytical Chemistry, 72, pp. 4904-4907 (2000);
- (101) U.S. Patent No. 5,037,615;
- (102) U.S. Patent No. 5,246,867;
- (103) U.S. Patent No. 5,622,821;

- (104) U.S. Patent No. 6,753,156;
- (105) U.S. Patent No. 6,936,687;
- (106) U.S. Patent No. 6,972,182;
- (107) U.S. Patent Application Publication No. 2002/0177120;
- (108) U.S. Patent No. 5,623,080;
- (109) U.S. Patent No. 6,525,088;
- (110) EP 0515133 A2;
- (111) JP 60-54381 A, accompanied by an English language abstract thereof;
- (112) T. NAGANO et al., "Specific Detection Method and Useful Generating System of Singlet Oxygen," Free Radicals in Clinical Medicine, Vol. 7, pp. 35-41 (1993);
- (113) I. SAITO et al., "Methyl-Substituted Poly(vinylnaphthalene) as a Reversible Singlet Oxygen Carrier," J. Am. Chem. Soc., Vol. 107, pp. 6329-6334, 1985;
- (114) T. W. Greene et al., "Protective Groups in Organic Synthesis," John Wiley & Sons, Inc., pp. v-xxi and 369-405 (1981);
- (115) J. KABATC et al., "Free Radical Polymerization Initiated via Photoinduced Intermolecular Electron Transfer Process: Kinetic Study 3<sup>1</sup>," Polymer 40(3), pp. 735-745 (1999);
- (116) K. SETSUKINAI et al., "Fluorescence Switching by O-dearylation of 7-aryloxycoumarins. Development of Novel Fluorescence Probes to Detect Reactive Oxygen," J. Chem. Soc., Perkin Trans. 2, 12, pp. 2453-2457, (2000);
- (117) U.S. Patent No. 6,903,226;

- (118) J.W. FIRTH et al., "Some Phenoxy-2H-benzo[b]pyrans," J. Chem. Research (S), Vol. 2000, No. 7, pp. 308-308 (July 2000).
- (119) U.S. Patent No. 6,656,927;
- (120) J.G. REYES et al., "A Fluorescence Method to Determine Picomole Amounts of Zn(II) in Biological Systems," Biol. Res., Vol. 27, pp. 49-56, (1994);
- (121) M. TSUDA et al., "Expression of Zinc Transporter Gene, ZnT-1, Is Induced After Transient Forebrain Ischemia in the Gerbil," The Journal of Neuroscience, Vol. 17, No. 17, pp. 6678-6684 (September 1, 1997);
- (122) T. KOIKE et al., "A Novel Biomimetic Zinc(II) - Fluorophore, Dansylamidoethyl-Pendant Macrocyclic Tetraamine 1,4,7,10-Tetraazacyclododecane (Cyclen)," J. Am. Chem. Soc., Vol. 118, 1996, pp. 12696-12703;
- (123) WO 01/62755, together with patent family member U.S. Patent Application Publication No. 2003/162298 A1;
- (124) Japanese Laid-Open Patent Publication No. 2000-239272, together with an English language Abstract of the same;
- (125) Web site of the Pharmaceutical Society of Japan, on February 1, 2003, a copy of the screenshot is enclosed. The subject matter of the screenshot was then published in an Abstract of "The 123<sup>rd</sup> Annual Congress of the Pharmaceutical Society of Japan" on March 5, 2003 for presentation No. 29[P1]-219 entitled "Development of Fluorescent Probe Having Low Affinity for Zinc" in the 123<sup>rd</sup> Annual Congress of the Pharmaceutical Society of Japan held on March 27-29, 2003;

- (126) Newport Green: A Catalog of Molecular Probes, Inc. "Handbook of Fluorescent Probes and Research Chemical, Chapter 22 – Section 22.7 Fluorescent Indicators for  $Zn^{2+}$  and Other Metals", 6<sup>th</sup> Edition by Richard P. Haugland, pp. 531-540 (1996);
- (127) Toshiaki HIRATSUKA, "Tanpakushitsu-Kakusan-Kouso (Protein, Nucleic Acid and Enzyme)", Vol. 42, No. 7, pp. 171-176 (1997);
- (128) ANDEREGG et al., Helvetica Chimica Acta, Vo.. 50, pp. 2330-2333 (1967);
- (129) T. HIRANO et al., "Highly Zinc-Selective Fluorescent Sensor Molecules Suitable for Biological Applications," Journal of the American Chemical Society, Vol. 122, No. 49, pp. 12399-12400 (2000);
- (130) R.P. HAUGLAND, "Handbook of Fluorescent probes and Research Products," 9<sup>th</sup> Edition Supplement, Chapter 20, pp. 805-817 (2002);
- (131) G.K. WALKUP et al., "A New Cell-Permeable Fluorescent Probe for  $Zn^{2+}$ ," Journal of the American Chemical Society, Vol. 122, No. 23, pp. 5644-5645 (2000);
- (132) J. KAWAKAMI et al., "Ab initio Molecular Orbital Study of Emission Mechanism of 2,6-Bis (quinolinecarboxy) methylpyridine as Fluorescent Chemosensors for Zinc and Cadmium Ions," Journal of Computer Chemistry, Japan, Vol. 2, No. 2, pp. 57-62 (2003);
- (133) C.J. FREDERICKSON et al., "A quinoline fluorescence method for visualizing and assaying the histochemically reactive zinc (bouton zinc) in the brain," Journal of Neuroscience Methods, Vol. 20, pp 91-103 (1987);

- (134) D. ZALEWSKI et al., "Correlation of apoptosis with change in intracellular labile Zn(II) using Zinquin [(2-methyl-8-p-toluenesulphonamido-6-quinolyloxy)acetic acid], a new specific fluorescent probe for Zn(II)," *Biochemical Journal*, Vol. 296, Part 2, pp. 403-408 (1993);
- (135) WO 01/64664 A1, accompanied by family member EP 1 260 508 A1;
- (136) JP 06-211831, accompanied by an English language abstract and family member U.S. Patent No. 5,451,343;
- (137) William A. PRYOR et al., "A Practical Method for Preparing Peroxynitrite Solutions of Low Ionic Strength and Free of Hydrogen Peroxide," *Free Radical Biology & Medicine*, Vol. 18, No. 1, pp. 75-83 (1995);
- (138) Stephen L. HEMPEL et al., "Dihydrofluorescein Diacetate is Superior for Detecting Intracellular Oxidants: Comparison with 2',7'-Dichlorodihydrofluorescein Diacetate, 5(and 6)-Carboxy-2',7'-Dichlorodihydrofluorescein Diacetate, and Dihydrorhodamine 123," *Free Radical Biology & Medicine*, Vol. 27, Nos. 1/2, pp. 146-159 (1999); and
- (139) Joseph A. HRABIE et al., "New Nitric Oxide-Releasing Zwitterions Derived from Polyamines," *J. Org. Chem.* Vol. 58, pp. 1472-1476 (1993).

Further to the U.S. Patent and Trademark Office's decision to waive the requirement under 37 C.F.R. 1.98, copies of the U.S. patents and U.S. published patent applications are not enclosed herewith. However, if any copies are needed, the Examiner is respectfully requested to contact the undersigned.

Copies of the above-noted documents, except for the U.S. patents and U.S. published patent applications, are enclosed together with a duly completed Form PTO-1449. The Examiner is accordingly requested to consider each of these documents,

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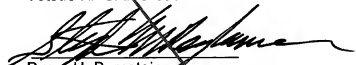
and to make them of record in this application by initialing in the appropriate spaces on the Form-1449. Applicants respectfully request that the Examiner include a copy of the initialed Form PTO-1449 with the next communication from the U.S. Patent and Trademark Office.

Applicants note that while this Supplemental Information Disclosure Statement is being filed more than three months from the filing date, Applicants have not received an action on the merits from the U.S. Patent and Trademark Office. Accordingly, consideration of the enclosed document is required under 37 C.F.R. 1.97(b)(3).

However, if an action on the merits has been mailed prior to the filing date of this Supplemental Information Disclosure Statement, Applicants hereby authorize the charging of any required fees necessary for consideration of the documents cited herein to Deposit Account No. 19-0089.

Any comments or questions concerning this application can be directed to the undersigned at the telephone number given below.

Respectfully submitted,  
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FORM PTO-1449

U.S. Department of Commerce  
Patent and Trademark OfficeAtty. Docket No.  
P26478Application No.  
10/519,682INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT

(Use several sheets if necessary)

Applicant  
Tetsuo NAGANO et al.Filing Date  
I.A. Filed July 7, 2003Group  
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## U.S. PATENT DOCUMENTS

| EXAMINER<br>INITIAL |        | DOCUMENT NUMBER | DATE     | NAME            | CLASS | SUBCLASS | FILING DATE<br>IF APPROPRIATE |
|---------------------|--------|-----------------|----------|-----------------|-------|----------|-------------------------------|
|                     |        | 5 0 4 9 6 7 3   | 09/17/91 | TSIEN et al.    |       |          |                               |
|                     | 2003 / | 0 1 6 2 2 9 8   | 08/28/03 | NAGANO et al.   |       |          |                               |
|                     | 2005 / | 0 0 6 4 3 0 8   | 03/24/05 | NAGANO et al.   |       |          |                               |
|                     |        | 5 8 7 4 5 9 0   | 02/23/99 | NAGANO et al.   |       |          |                               |
|                     |        | 6 5 2 5 0 8 8   | 02/25/03 | NAGANO et al.   |       |          |                               |
|                     |        | 6 9 0 3 2 2 6   | 06/07/05 | NAGANO et al.   |       |          |                               |
|                     |        | 6 4 0 3 6 2 5   | 06/11/02 | NAGANO et al.   |       |          |                               |
|                     | 2003 / | 0 1 5 7 7 2 7   | 08/21/03 | NAGANO et al.   |       |          |                               |
|                     | 2003 / | 0 1 5 3 0 2 7   | 08/14/03 | NAGANO et al.   |       |          |                               |
|                     | 2005 / | 0 0 3 7 3 3 2   | 02/17/05 | KOMATSU et al., |       |          |                               |
|                     | 2005 / | 0 1 8 2 2 5 3   | 08/18/05 | YANO et al.     |       |          |                               |
|                     | 2006 / | 0 0 3 0 0 5 4   | 02/09/06 | NAGANO et al.   |       |          |                               |
|                     | 2003 / | 0 1 5 3 0 2 7   | 08/14/03 | NAGANO et al.   |       |          |                               |
|                     |        | 6 7 5 6 2 3 1   | 06/29/04 | NAGANO et al.   |       |          |                               |
|                     |        | 6 4 6 9 0 5 1   | 10/22/02 | NAGANO et al.   |       |          |                               |
|                     |        | 6 4 4 1 1 9 7   | 08/27/02 | NAGANO et al.   |       |          |                               |
|                     | 2005 / | 0 1 2 3 4 7 8   | 06/09/05 | NAGANO et al.   |       |          |                               |
|                     | 2005 / | 0 1 3 0 3 1 4   | 06/16/05 | NAGANO et al.   |       |          |                               |
|                     | 2004 / | 0 1 4 7 0 3 5   | 07/29/04 | NAGANO et al.   |       |          |                               |
|                     | 2004 / | 0 0 4 3 4 9 8   | 03/04/04 | NAGANO et al.   |       |          |                               |
|                     |        | 6 0 1 3 8 0 2   | 01/11/00 | HOYLAND et al.  |       |          |                               |
|                     |        | 6 8 3 3 3 8 6   | 12/21/04 | NAGANO et al.   |       |          |                               |
|                     |        | 6 5 6 9 8 9 2   | 05/27/03 | NAGANO et al.   |       |          |                               |
|                     |        | 5 6 4 8 2 7 0   | 07/15/97 | KUHN et al.     |       |          |                               |
|                     |        | 6 5 6 9 8 9 2   | 05/27/03 | NAGANO et al.   |       |          |                               |
|                     |        | 6 2 0 1 1 3 4   | 03/13/01 | NAGANO et al.   |       |          |                               |
|                     |        | 5 2 0 8 1 4 8   | 05/04/93 | HAUGLAND et al. |       |          |                               |
|                     |        | 5 6 5 6 4 3 3   | 08/12/97 | SELVIN et al.   |       |          |                               |
|                     |        | 5 6 2 2 8 2 1   | 04/22/97 | SELVIN et al.   |       |          |                               |
|                     |        | 5 6 3 9 6 1 5   | 06/17/97 | SELVIN et al.   |       |          |                               |
|                     |        | 4 8 9 1 0 7 5   | 01/02/90 | DAKUBU et al.   |       |          |                               |

EXAMINER /Taofig Solola/

DATE CONSIDERED

03/31/2008

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.S./

FORM PTO-1449

U.S. Department of Commerce  
Patent and Trademark OfficeAtty. Docket No.  
P26478Application No.  
10/519,682INFORMATION DISCLOSURE STATEMENT  
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## U.S. PATENT DOCUMENTS

| EXAMINER<br>INITIAL |        | DOCUMENT NUMBER | DATE     | NAME            | CLASS | SUBCLASS | FILING DATE<br>IF APPROPRIATE |
|---------------------|--------|-----------------|----------|-----------------|-------|----------|-------------------------------|
|                     |        | 4 9 6 8 6 3 1   | 11/06/90 | DAKUBU          |       |          |                               |
|                     |        | 5 3 4 0 7 1 6   | 08/23/94 | UIIMAN et al.   |       |          |                               |
|                     |        | 5 8 0 0 9 9 6   | 09/01/98 | LEE et al.      |       |          |                               |
|                     |        | 5 8 6 3 7 2 7   | 01/26/99 | LEE et al.      |       |          |                               |
|                     |        | 5 0 3 7 6 1 5   | 08/06/91 | KANE            |       |          |                               |
|                     |        | 5 2 4 6 8 6 7   | 09/21/93 | LAKOWIEZ et al. |       |          |                               |
|                     |        | 5 6 2 2 8 2 1   | 04/22/97 | SELVIN et al.   |       |          |                               |
|                     |        | 6 7 5 3 1 5 6   | 06/22/04 | MATHIS et al.   |       |          |                               |
|                     |        | 6 9 3 6 6 8 7   | 08/30/05 | KOMORIYA et al. |       |          |                               |
|                     |        | 6 9 7 2 1 8 2   | 12/06/05 | COLYER et al.   |       |          |                               |
|                     | 2002 / | 0 1 7 7 1 2 0   | 11/28/02 | ELLIOTT et al., |       |          |                               |
|                     |        | 5 6 2 3 0 8 0   | 04/22/97 | NECKERS et al.  |       |          |                               |
|                     |        | 6 5 2 5 0 8 8   | 02/25/03 | NAGANO et al.   |       |          |                               |
|                     |        | 6 6 5 6 9 2 7   | 12/02/03 | NAGANO et al.   |       |          |                               |
|                     |        |                 |          |                 |       |          |                               |
|                     |        |                 |          |                 |       |          |                               |
|                     |        |                 |          |                 |       |          |                               |

## FOREIGN PATENT DOCUMENTS

|  |      | DOCUMENT NUMBER | DATE     | COUNTRY | CLASS | SUBCLASS | TRANSLATION<br>YES | NO |
|--|------|-----------------|----------|---------|-------|----------|--------------------|----|
|  |      | 0 3 1 4 4 8 0   | 05/03/89 | EPO     |       |          |                    |    |
|  | 0    | 1 / 6 2 7 5 5   | 08/30/01 | WIPO    |       |          |                    |    |
|  |      | 1 2 6 0 5 1 0   | 11/27/02 | EPO     |       |          |                    |    |
|  | 10   | - 2 2 6 6 8 8   | 08/25/98 | JAPAN   |       |          |                    |    |
|  |      | 1 0 6 9 1 2 1   | 01/17/01 | EPO     |       |          |                    |    |
|  | 2004 | / 0 4 0 2 9 6   | 05/13/04 | WIPO    |       |          |                    |    |
|  | 2005 | / 0 2 4 0 4 9   | 03/17/05 | WIPO    |       |          |                    |    |
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|  | 2000 | - 2 3 9 2 7 2   | 05/09/00 | JAPAN   |       |          |                    |    |
|  | 0    | 0 / 0 0 8 1 9   | 01/06/00 | WIPO    |       |          |                    |    |
|  | 8    | 9 / 0 9 4 0 8   | 10/05/89 | WIPO    |       |          |                    |    |
|  | 9    | 6 / 4 2 0 1 6   | 12/27/96 | WIPO    |       |          |                    |    |
|  | 9    | 8 / 1 5 8 3 0   | 04/16/98 | WIPO    |       |          |                    |    |
|  | 9    | 9 / 1 5 8 9 6   | 04/01/99 | WIPO    |       |          |                    |    |

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| FORM PTO-1449  |      | U.S. Department of Commerce<br>Patent and Trademark Office  |          | Atty. Docket No.<br>P26478             |                 | Application No.<br>10/519,682 |                       |
| <b>INFORMATION DISCLOSURE STATEMENT<br/>BY APPLICANT</b><br>(Use several sheets if necessary)  |      |   |          | Applicant<br>Tetsuo NAGANO et al.      |                 |                               |                       |
|  |      |   |          | Filing Date<br>I.A. Filed July 7, 2003 |                 | Group<br>1755                 |                       |
| <b>FOREIGN PATENT DOCUMENTS</b>  |      |   |          |  |                 |                               |                       |
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|  | 9    | - 1 0 1 2 6 2   | 04/15/97 | JAPAN                                  |                 |                               |                       |
|  | 5    | - 1 8 0 7 7 3   | 07/23/99 | JAPAN                                  |                 |                               |                       |
|  | 10   | - 0 8 8 1 2 4   | 04/07/98 | JAPAN                                  |                 |                               |                       |
|  | 2000 | - 1 1 1 4 8 0   | 04/21/00 | JAPAN                                  |                 |                               |                       |
|  |      | 0 5 1 5 1 3 3   | 11/25/92 | EPO                                    |                 |                               |                       |
|  | 60   | - 0 5 4 3 8 1   | 03/28/85 | JAPAN                                  |                 |                               |                       |
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|  |      | 1 2 6 0 5 0 8   | 11/27/02 | EPO                                    |                 |                               |                       |
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|  |      |   |          |  |                 |                               |                       |
|  |      |   |          |  |                 |                               |                       |
| <b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>  |      |   |          |  |                 |                               |                       |
|  | 1    | English Language Abstract of JP 2000-239272.  |          |  |                 |                               |                       |
|  | 2    | English Language Abstract of JP 9-101262.   |          |  |                 |                               |                       |
|  | 3    | English Language Abstract of JP 5-180773.   |          |  |                 |                               |                       |
|  | 4    | English Language Abstract of JP 10-88124.   |          |  |                 |                               |                       |
|  | 5    | English Language Abstract of JP 2000-111480.  |          |  |                 |                               |                       |
|  | 6    | English Language Abstract of JP 60-054381.  |          |  |                 |                               |                       |
|  | 7    | English Language Abstract of JP 6-211831.   |          |  |                 |                               |                       |
|  | 6    | Rajendra Nath SEN et al., "The Condensation of Primary Alcohols with Resorcinol and Other Hydroxy Aromatic Compounds", J. Am. Chem. Soc., vol. 47, pp. 1079-1091 (1925), XP002332482. |          |  |                 |                               |                       |
|  | 9    | R. KURDUKER et al., "Search for Physiologically Active Compounds", Proc. Indian. Acad. Sci. Sect. A., Vol. 57, pp. 280-287 (1963).  |          |  |                 |                               |                       |
|  | 10   | A. MINTA et al., "Fluorescent Indicators for Cytosolic Calcium Based on Rhodamine and Fluorescein Chromophores", J. Biol. Chem., Vol. 264, No. 14, pp. 8171-8178 (1989).              |          |  |                 |                               |                       |
|  | 11   | P.K. Grover et al., "Xanthones. Part IV. A New Synthesis of Hydroxyxanthones and Hydroxybenzophenones," J. Chem. Sci. (London), pp. 3982-3985 (1955).                                 |          |  |                 |                               |                       |
|  |      |   |          |  |                 |                               |                       |
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I.A. Filed July 7, 2003Group  
1755

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

|    |  |
|----|--|
| 12 | Reyes, J.G., et al., Biol. Res., 27, pp. 49-56, 1994.  |
| 13 | Tsuda, M., et al., Neurosci., 17, pp. 6678-6684, 1997.   |
| 14 | Koike, T., et al., J. Am. Chem. Soc., 118, pp. 12696-12703, 1996.  |
| 15 | Saibou Kougaku (Cell Technology), 17, pp. 584-595, 1998.   |
| 16 | Tanpakushitsu.Kakusan.Kousou (Protein, Nucleic Acid and Enzyme), extra number, 42, pp. 171-176, 1997.  |
| 17 | Tetsuji Kametani, Nankodo Co., Ltd., pp. 214-215, 1997.  |
| 14 | Handbook of Fluorescent Probes and Research Chemicals, 6th Edition by Richard P. Haugland, pp. 503 and 531-540.  |
| 19 | Protective Groups in Organic Synthesis, T. W. Greene, John Wiley & Sons, Inc. pp. v-xxi and 369-405.   |
| 20 | Angew. Chem., Int. Ed. (1999), 38(21), pp. 3209-3212   |
| 21 | Anal. Chem. (1998), 70(13), pp. 2446-2453  |
| 22 | Bioorganic & Medicinal Chemistry, Vol.4, No.6, pp. 901-916, (1996)   |
| 23 | Bioorg. Khim. (1995), 21(10), pp. 795-801  |
| 24 | Sci. China, Ser. B: Chem. (1998), 41(5), pp. 549-555   |
| 25 | J. Am. Chem. Soc. (1996), 118, pp. 6514-6515   |
| 26 | Hirano T. et al., "Highly Zinc-Selective Fluorescent Sensor Molecules Suitable for Biological Applications", J. Am. Chem. Soc., Vol. 122, No. 49, 13 December 2000, pp. 12399-12400.   |
| 27 | Walkup G. K. et al., "A New Cell-Permeable Fluorescent Probe for Zn <sup>2+</sup> ", J. Am. Chem. Soc., Vol. 122, No. 23, 14 June 2000, pp. 5644-5645.   |
| 28 | BAMBOT, S.B. et al., "Potential Applications of Lifetime-Based, Phase-Modulation Fluorimetry in Bioprocess and Clinical Monitoring", Trends in Biotechnology, Vol. 13, No. 3, March 1995, pages 106-115, XP 004207135.   |
| 29 | SIPIOR, J. et al., "Lifetime-Based Optical Sensing of pH Using Resonance Energy Transfer in Sol-Gel Films", Sensors and Actuators B; Vol. 22, No. 3, December 1994, pages 181-188, XP004011062.  |
| 30 | SELVIN, P.R. et al., "Luminescence Energy Transfer Using a Terbium Chelate: Improvements on Fluorescence Energy Transfer", Proceedings of the National Academy of Science of USA, National Academy of Science, Washington, DC, US, Vol. 91, October 1994, Pages 10024-10028. |
| 31 | Yuan, J. et al., "Functionalization of Fluorescent Lanthanide Complexes and Their Applications to Biotechnology", Bunseki Kagaku - Japan Analyst; Vol. 48, No. 12, pages 1077-1083 (1999), XP002932633.  |

EXAMINER

/I aotiq Solola/

DATE CONSIDERED

03/31/2008

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1755

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

- |    |   |
|----|---|
| 32 | Rogers, M. V., Drug Discovery Today, Vol. 2, pp. 156-160, 1997.   |
| 33 | Selvin, P. R., et al., J. Am. Chem. Soc., Vol. 117, pp. 8132-8138, 1995.  |
| 34 | Stryer, L., Ann. Rev. Biochem., Vol. 47, pp. 819-846, 1978.   |
| 35 | Hemmila, I., et al., Drug Discovery Today, Vol. 2, pp. 373-381, 1997.   |
| 36 | New Apoptosis Experimental Protocol, 2nd ed., Yodosha, pp. 201-204, 1999.   |
| 37 | Selvin, P. R., et al., J. Am. Chem. Soc., Vol. 116, pp. 6029-6030, 1994.  |
| 38 | J. BURCH, "The Inhibition of Horse-Liver Esterase by Rhodamine B," Biochemical Journal, Vol. 59, pp. 97-110 (1955).   |
| 39 | D.D. THOMAS et al., "Flourescence energy transfer in the rapid-diffusion limit," Proceedings of the National Academy of Sciences of the United States of America, Vol. 75, No. 12, pp. 5746-5750 (1978).  |
| 40 | S.M. YEH et al., "Characterization of Transferin Metal-Binding Sites by Diffusion-Enhanced Energy Transfer," Biochemistry, 19, pp. 5057-5062 (1980).  |
| 41 | R.A. EDWARDS et al., "Spectroscopic Studies of Cibacron Blue and Congo Red Bound to Dehydrogenases and Kinases. Evaluation of Dyes as Probes of the Dinucleotide Fold," Biochemistry, Vol. 18, No. 23, pp. 5197-5204 (1979).  |
| 42 | C.F. MEARES et al., "Diffusion-Enhanced Energy Transfer Shows Accessibility of Ribonucleic Acid Polymerase Inhibitor Binding Sites," Biochemistry, 20, pp. 610-617 (1981).  |
| 43 | T.G. WENSEL et al., "Electrostatic Properties of Myoglobin Probed by Diffusion-Enhanced Energy Transfer," Biochemistry, 22, pp. 6247-6254 (1983).   |
| 44 | M.M. FEDERICI et al., "Interaction of Cibacron Blue F <sub>3</sub> GA with Glutamine Synthetase: Use of the Dye as a Conformational Probe. 1. Studies Using Unfractionated Dye Samples," Biochemistry, 24, pp. 647-660 (1985).                                      |
| 45 | T.G. WENSEL et al., "Diffusion-Enhanced Lanthanide Energy-Transfer Study of DNA-Bound Cobalt(III) Bleomycins: Comparisons of Accessibility and Electrostatic Potential with DNA Complexes of Ethidium and Acridine Orange," Biochemistry, 24, pp. 3060-3069 (1985). |
| 46 | B.S. ISAACS et al., "A Domain of Membrane-Bound Coagulation Factor Va Is Located Far from the Phospholipid Surface. A Fluorescence Energy Transfer Measurement," Biochemistry, 25, pp. 4958-4969 (1986).  |
| 47 | T.G. WENSEL et al., "Study of Biological Macromolecules by Diffusion-Enhanced Lanthanide Energy Transfer," Journal of the Less-Common Metals, 149, pp. 143-160 (1989).  |
| 48 | P.R. SELVIN et al., "Luminescence Resonance Energy Transfer," Journal of the American Chemical Society, 116, pp. 6029-6030 (1994).  |

EXAMINER /Taoqi Sotola/

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1755

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

- |    |  |
|----|--|
| 49 | T. YAMAMOTO et al., "Determination of Electrostatic Potential Around Specific Locations on the Surface of Actin by Diffusion-enhanced Fluorescence Resonance Energy Transfer," Journal of Molecular Biology, 241, pp. 714-731 (1994).            |
| 50 | S.C.J. MESKERS et al., "Analysis of Delayed Luminescence from Some Quenchers of Tb(DPA) <sub>3</sub> <sup>3-</sup> Emission: Proof for an Energy Transfer Quenching Mechanism," Journal of Alloys and Compounds, 250, pp. 332-335 (1997).        |
| 51 | D.D. ROOT, "In situ Molecular Association of Dystrophin with Actin Revealed by Sensitized Emission Immuno-Resonance Energy Transfer," Proceedings of the National Academy of Sciences of the United States of America, 94, pp. 5685-5690 (1997). |
| 52 | C. MUCIGNAT-CARETTA et al., "Building of Two Fluorescent cAMP Analogues to Type I and II Regulatory Subunits of cAMP-Dependent Protein Kinases," Biochimica et Biophysica Acta, 1357, pp. 81-90 (1997).  |
| 53 | Y.-W. PARK et al., "Homogeneous Proximity Tyrosine Kinase Assays: Scintillation Proximity Assay versus Homogeneous Time-resolved Fluorescence," Analytical Biochemistry, 269, pp. 94-104 (1999).   |
| 54 | K. BLOMBERG et al., "Terbium and Rhodamine as Labels in a Homogeneous Time-resolved Fluorometric Energy Transfer Assay of the $\beta$ Subunit of Human Chorionic Gonadotropin in Serum," Clinical Chemistry, 45, 855-861 (1999).                 |
| 55 | L.L. PEARCE et al., "Role of Metallothionein in Nitric Oxide Signaling as Revealed by a Green Fluorescent Fusion Protein," Proceedings of the National Academy of Sciences of the United States of America, 97, pp. 477-482 (2000).              |
| 56 | M. KORESAWA et al., "Development of a Time-Resolved Fluorometric Detection System Using Diffusion-Enhanced Energy Transfer," Analytical Chemistry, 72, pp. 4904-4907 (2000).   |
| 57 | T. NAGANO et al., "Specific Detection Method and Useful Generating System of Singlet Oxygen," Free Radicals in Clinical Medicine, Vol. 7, pp. 35-41 (1993).  |
| 58 | I. SAITO et al., "Methyl-Substituted Poly(vinyl naphthalene) as a Reversible Singlet Oxygen Carrier," J. Am. Chem. Soc., Vol. 107, pp. 6329-6334, 1985.  |
| 59 | T. W. Greene et al., "Protective Groups in Organic Synthesis," John Wiley & Sons, Inc., pp. v-xxi and 369-405 (1981).  |
| 60 | J. KABATC et al., "Free Radical Polymerization Initiated via Photoinduced Intermolecular Electron Transfer Process: Kinetic Study 3 <sup>1</sup> ," Polymer 40(3), pp. 735-745 (1999).   |
| 61 | K. SETSUKINAI et al., "Fluorescence Switching by O-dearylation of 7-aryloxy coumarins. Development of Novel Fluorescence Probes to Detect Reactive Oxygen," J. Chem. Soc., Perkin Trans. 2, 12, pp. 2453-2457, (2000).                           |

EXAMINER

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DATE CONSIDERED

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1755

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

- |    |  |
|----|--|
| 62 | J.W. FIRTH et al., "Some Phenoxo-2H-benzo[b]pyrans," J. Chem. Research (S), Vol. 2000, No. 7, pp. 308-308 (July 2000).   |
| 63 | J.G. REYES et al., "A Fluorescence Method to Determine Picomole Amounts of Zn(II) in Biological Systems," Biol. Res., Vol. 27, pp. 49-56, (1994).  |
| 64 | M. TSUDA et al., "Expression of Zinc Transporter Gene, ZnT-1, Is Induced After Transient Forebrain Ischemia in the Gerbil," The Journal of Neuroscience, Vol. 17, No. 17, pp. 6678-6684 (September 1, 1997).   |
| 65 | T. KOIKE et al., "A Novel Biomimetic Zinc(II) - Fluorophore, Dansylamidoethyl-Pendant Macrocyclic Tetraamine 1,4,7,10-Tetraazacyclododecane (Cyclen)," J. Am. Chem. Soc., Vol. 118, 1996, pp. 12696-12703.   |
| 66 | Web site of the Pharmaceutical Society of Japan, on February 1, 2003, a copy of the screenshot is enclosed. The subject matter of the screenshot was then published in an Abstract of "The 123 <sup>rd</sup> Annual Congress of the Pharmaceutical Society of Japan" on March 5, 2003 for presentation No. 29[P1]I-219 entitled "Development of Fluorescent Probe Having Low Affinity for Zinc" in the 123 <sup>rd</sup> Annual Congress of the Pharmaceutical Society of Japan held on March 27-29, 2003. |
| 67 | Newport Green: A Catalog of Molecular Probes, Inc. "Handbook of Fluorescent Probes and Research Chemical, Chapter 22 - Section 22.7 Fluorescent Indicators for Zn <sup>2+</sup> and Other Metals", 6 <sup>th</sup> Edition by Richard P. Haugland, pp. 531-540 (1996)  |
| 68 | Toshiaki HIRATSUKA, "Tanpakushitsu-Kakusan-Kouso (Protein, Nucleic Acid and Enzyme)", Vol. 42, No. 7, pp. 171-176 (1997).  |
| 69 | ANDEREGG et al., Helvetica Chimica Acta, Vol. 50, pp. 2330-2333 (1967).  |
| 70 | T. HIRANO et al., "Highly Zinc-Selective Fluorescent Sensor Molecules Suitable for Biological Applications," Journal of the American Chemical Society, Vol. 122, No. 49, pp. 12399-12400 (2000)  |
| 71 | R.P. HAUGLAND, "Handbook of Fluorescent probes and Research Products," 9 <sup>th</sup> Edition Supplement, Chapter 20, pp. 805-817 (2002).   |
| 72 | G.K. WALKUP et al., "A New Cell-Permeable Fluorescent Probe for Zn <sup>2+</sup> ," Journal of the American Chemical Society, Vol. 122, No. 23, pp. 5644-5645 (2000).  |
| 73 | J. KAWAKAMI et al., "Ab initio Molecular Orbital Study of Emission Mechanism of 2,6-Bis (quinolinecarboxy) methylpyridine as Fluorescent Chemosensors for Zinc and Cadmium Ions," Journal of Computer Chemistry, Japan, Vol. 2, No. 2, pp. 57-62 (2003).   |
| 74 | C.J. FREDERICKSON et al., "A quinoline fluorescence method for visualizing and assaying the histochemically reactive zinc (bouts zinc) in the brain," Journal of Neuroscience Methods, Vol. 20, pp 91-103 (1987).  |

EXAMINER /Taofiq Solola/

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1755

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

- |    |   |
|----|---|
| 75 | D. ZALEWSKI et al., "Correlation of apoptosis with change in intracellular labile Zn(II) using Zinquin [(2-methyl-8-p-toluenesulphonamido-6-quinolyloxy)acetic acid], a new specific fluorescent probe for Zn(II)," Biochemical Journal, Vol. 296, Part 2, pp. 403-408 (1993).  |
| 76 | William A. PRYOR et al., "A Practical Method for Preparing Peroxynitrite Solutions of Low Ionic Strength and Free of Hydrogen Peroxide," Free Radical Biology & Medicine, Vol. 18, No. 1, pp. 75-83 (1995).   |
| 77 | Stephen L. HEMPEL et al., "Dihydrofluorescein Diacetate is Superior for Detecting Intracellular Oxidants: Comparison with 2',7'-Dichlorodihydrofluorescein Diacetate, 5(and 6)-Carboxy-2',7'-Dichlorodihydrofluorescein Diacetate, and Dihydrorhodamine 123," Free Radical Biology & Medicine, Vol. 27, Nos. 1/2, pp. 146-159 (1999). |
| 78 | Joseph A. HRABIE et al., "New Nitric Oxide-Releasing Zwitterions Derived from Polyamines," J. Org. Chem. Vol. 58, pp. 1472-1476 (1993).   |

EXAMINER

/ / aotiq Solola/

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